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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,214	12/05/2003	Gregory T. Huber	S9025.0330	2468

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DICKSTEIN SHAPIRO
1633 Broadway
NEW YORK, NY 10019

EXAMINER	
LISTVOYB, GREGORY	
ART UNIT	PAPER NUMBER
1796	

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09/10/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/730,214	HUBER ET AL.	
	Examiner	Art Unit	
	GREGORY LISTVOYB	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 11-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,11-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

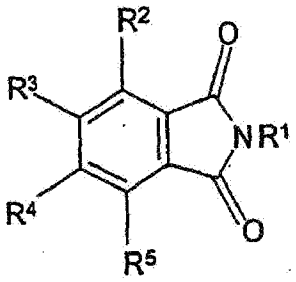
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 11-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Winter et al (WO 02/0234840, cited with equivalent US 6821335) herein WO 02/34840 in view of Patil et al (US 5633326) herein Patil (both cited in the previous Office Action).

WO 02/34840 teaches a pigment dispersant with the following formula:



(1)

where

R1 stands for a straight-chain, branched or cyclic aliphatic radical having 10 to 30 carbon atoms; for an alkenyl radical having 10 to 30 carbon atoms.

R2, R3, R4 and R5 are identical or different and denote hydrogen, C1-010 aikyl, C1-010 alkoxy, halogen, -OR6, -NR6R7, -COOR6, -CONR6RT, "NR6" COR7,

SO2NR6R7, -SO3M, -NO2, -CN or CF3, R6 and R7 standing for H or an alkyl radical having 1 to 10 carbon atoms and M standing for one equivalent of a 1 to 3 valent cation.

Therefore, when R2, R4 and R5 radicals are Hydrogens and R3 is COOR6, where R6 is Hydrogen, the formula above represents imide based on 1,2,4-benzenetricarboxylic anhydride.

WO 02/34840 discloses a polyalkyl benzimide polymeric dispersant for use in printing ink compositions, comprising the reaction product of a polyalkylene amine with up to C30 aliphatic chain with phthalic anhydride (see Claim 1), where colorant dispersion comprising at least 45%wt (5-60%wt), 0.1-15% of the dispersant (see Column 3, line 20, meeting the limitations of claims 18-19) and having viscosity lower than 150Pas.

Note that WO 02/34840 does not teach viscosity of the dispersion, having at least 45% of colorant. However, data, presented in Tables (see Column 9 and 10) show that viscosity value at 35% of pigment content is 209 mPa, which is 0.209Pa. Therefore, it would have been obvious to an artisan that viscosity at 45% of colorant would not exceed 150Pa.

Note that although WO 02/34840 discloses long-chain alkyl radical, it does not teach a reaction product, specifically containing polyisobutylene (PIB).

PIB is a branched aliphatic compound of a formula: (C(CH3)2-CH2)n

WO 02/34840 teaches a straight-chain, branched or cyclic aliphatic radical having 10 to 30 carbon atoms (see R1 above). Therefore, disclosure of Winter encompasses the definition of PIB (In other words, WO 02/34840's disclosure may include PIB as a branched alkyl chain with up to 30 carbon atoms).

Polyisobutylene oligomer used in the Application examined has Mn more than 500, which is comparable with C30 alkylene chain disclosed in WO 02/0234840 (at 30 carbons molecular weight of the alkyl chain is equal to 420-450 Daltons, depending on branching. In addition, molecular weight of PIB is not defined in the Claims).

Therefore, the above ingredients are homologs. In accordance to MPEP 2144.09 the structural analogs are *prima facie* obvious in the absence of showing unexpected results.

Regarding the new limitation of claim 1, claiming "the chain length of the polyisobutylene amine is such as to make the reaction product compatible with a non-polar colorant dispersion", the parameter of compatibility is not defined in the Specification (this fact is admitted by the Applicant, see page 6 of Remarks, dated on 3/15/2010). Examiner believes that alkyl chain of up to 30 carbons is hydrophobic enough to provide such a compatibility.

In reference to amendment to claim 11, claiming "non-polar combination", alyl chain of up to 30 carbons provides long-chain non-polar fragment.

In addition, Patil teaches a dispersant, based on polyisobutylene succinimide (see Column 13, line 50 and Column 3, line 30).

Patil teaches that the above polymer has very good dispersing properties in wide variety of environment (Column 24, line 45). In addition, due to a presence of tret-butyl group, PIB possesses antioxidant properties.

Therefore, it would have been obvious to a person of ordinary skills in the art to replace C30 alkyl to PIB in WO 02/34840 in order to enhance dispersing properties and increase resistance to oxidation of the composition.

Regarding Claims 13-15, WO 02/34840 discloses laked organic pigments, such as naphthol pigments (Column 3, line 5).

In reference to Claim 16 and new claims 25-26, 30 and 31 WO 02/34840 does not disclose pigments listed in the claim. However, WO 02/34840 teaches the following examples of organic pigments in the sense of the invention are monoazo pigments, diazo pigments, disazo condensation pigments, laked azo pigments, triphenylmethane pigments, thioindigo pigments, thiazine indigo pigments, perylene pigments, perinone pigments, anthanthrone pigments, diketopyrrolopyrrole pigments, dioxazine pigments, quinacridone pigments, phthalocyanine pigments, isoindolinone pigments, isoindoline pigments, benzimidazolone pigments, naphthol pigments and quinophthalone pigments, preference being given to anthanthrone pigments, dioxazine pigments, and

phthalocyanine pigments, and also acid to alkaline carbon blacks from the group of the furnace blacks or gas blacks.

Examples of Suitable inorganic pigments are titanium dioxides, zinc sulfides, iron oxides, chromium oxides, ultramarine, nickel and chromium antimony titanium oxides, cobalt oxides, and bismuth vanadates.

The position is taken that the above pigments encompass the ones listed in the claim 16.

Regarding Claim 17 and new claim 27, WO 02/34840 does not disclose 65% colorant present.

WO 02/34840 teaches 5-60% wt of colorant.

In the relevant case law (see *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), where Claims to titanium (Ti) alloy with 0.8% nickel (Ni) and 0.3% molybdenum (Mo) were not anticipated by, although they were held obvious over, a graph in a Russian article on Ti-Mo-Ni alloys in which the graph contained an actual data point corresponding to a Ti alloy containing 0.25% Mo and 0.75% Ni. (see also MPEP 2131.03).

Therefore, it would have been obvious to a person of ordinary skills in the art to increase colorant load in WO 02/34840 to 65% wt, make the composition more economically efficient.

The ingredient content is close enough to one of the claim (i.e. 60% wt vs 65% wt) that an artisan would expect the respective compositions to have the same properties.

Regarding Claims 20-21, WO 02/34840 discloses broad range of applications, such as colorants for electrophotographic toners, sprayable colorants. It is cover variety of shapes and materials, such as glass, ceramic, concrete, etc. Therefore, the above composition is applicable as lithographic printing ink.

Regarding new claims 22-24, 28, 29 and 31 WO 02/34840 discloses a polyalkyl benzimide polymeric dispersant for use in printing ink compositions, comprising the reaction product of a polyalkylene amine with up to C30 aliphatic chain with phthalic anhydride (see Claim 1), where colorant dispersion comprising at least 45%wt (5-60%wt), 0.1-15% of the dispersant (see Column 3, line 20) and having viscosity lower than 150 Pas.

Response to Arguments

Applicant's arguments filed on 6/22/2010 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant submits that "The chain length is at least 50 carbons since shorter lengths are not suited for non-polar systems."

However, the parameter of compatibility is not defined in the Specification (this fact is admitted by the Applicant, see page 6 of Remarks, dated on 3/15/2010). Examiner believes that alkyl chain of up to 30 carbons is hydrophobic enough to provide such compatibility.

Applicant argues that the combination of Winter and Patil is improper, because Winters's material is not a dispersant.

Examiner disagrees. Winter's imide has the ingredients of the same nature (trifunctional imide and aliphatic chain) as ones of the Application. In addition, Winter teaches that his compound is used in dispersions of colorants (see Column 1, line 5). Therefore, it should have the properties of the dispersant.

Applicant argues that Winter's formula includes a long list of possible combinations.

However, when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named. *Ex parte A,* 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990) See also MPEP 2131.02.

In addition, Patil (secondary reference) teaches PIB fragment as a part of a dispersant.

Applicant submits that when Winter provides guidance about what selections should be made at column 2, lines 37-42, trimellitic based compounds are excluded, i.e. R3 can only be COOMe and cannot be COOH.

This is incorrect. There is no proviso, limiting R3 radical found in the Winter.

Applicant argues that Winter teaches the compound of formula I is the reaction product of a cyclic anhydride with a fatty amine. Polyisobutylene amine (PIB) is not a fatty amine.

This is incorrect. According to Winter's formula (1), R1 can be represented by either unsaturated or saturated hydrocarbon. In the first case it is a reaction product of an anhydride and fatty amine. In opposite when R1 is saturated alkyl, the starting material is saturated amine.

Note that Applicant presented essentially the same arguments as ones of the Remarks filed on 6/02/2009, 7/07/2009 and 10/05/2010 As a result, Examiner repeats part of his arguments from the previous Office Actions.

Examiner suggests that experimental data with demonstration of unexpected results can be provided in form of Declaration under 37CFR 1.132.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY LISTVOYB whose telephone number is (571)272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL
/GREGORY LISTVOYB/
Examiner, Art Unit 1796